September, 1957

THE CHEMIST

VOLUME XXXIV NUMBER 9

Dr. John B. Entrikin (center) receives Honor Scroll of the Louisiana AIC Chapter. On left, Dr. Paul F. Bailey; on right, Carroll F. Hoffpauir, Chapter Chairman.

(See page 329)

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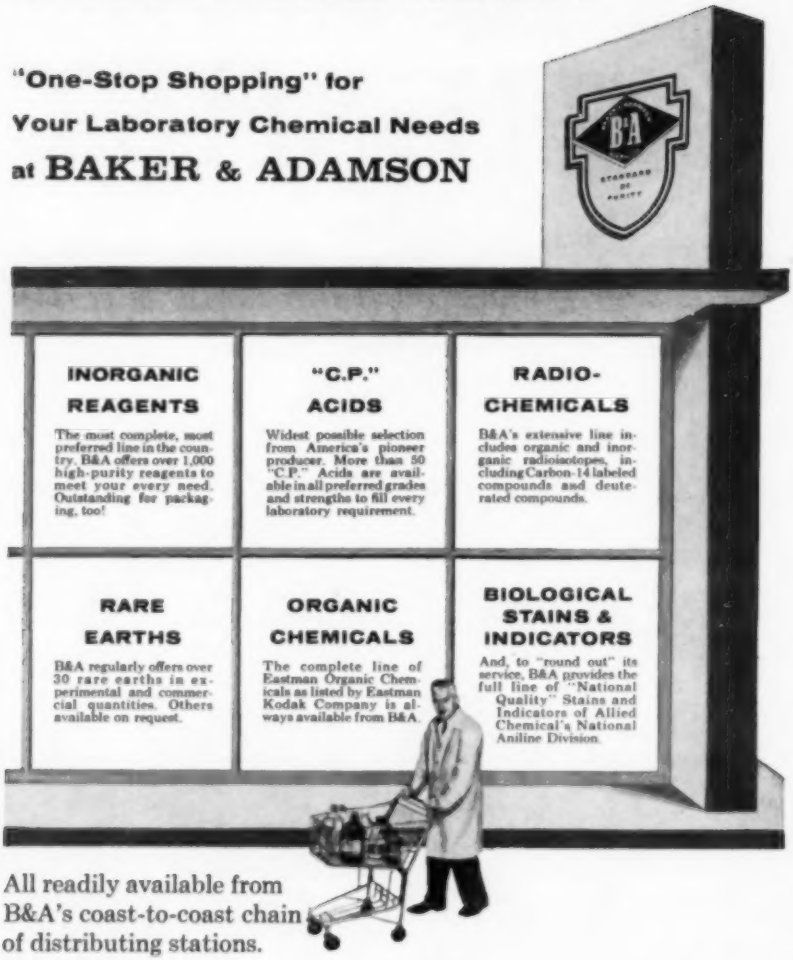
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Deadlines for *The Chemist*

Copy for the November issue of The Chemist should be in our hands before October 10th. Advertising copy for November should be received not later than October 15th.

THE AMERICAN INSTITUTE OF CHEMISTS does not necessarily endorse any of the facts or opinions advanced in articles which appear in THE CHEMIST.

A new approach to the problem of The Shortage of Students and Science Teachers is shown in the article on Page 329.

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TO COME IN OCTOBER

Dr. Clifford F. Rassweiler received the Honor Scroll of the New York Chapter in June. His acceptance address is entitled, "What Kind of Professional Status Do Chemists Want?" Another of the fine papers presented at the 34th AIC Annual Meeting is offered, "Common Sense Cuts Research Costs," by Dr. S. C. Fulton of Esso Research and Engineering.

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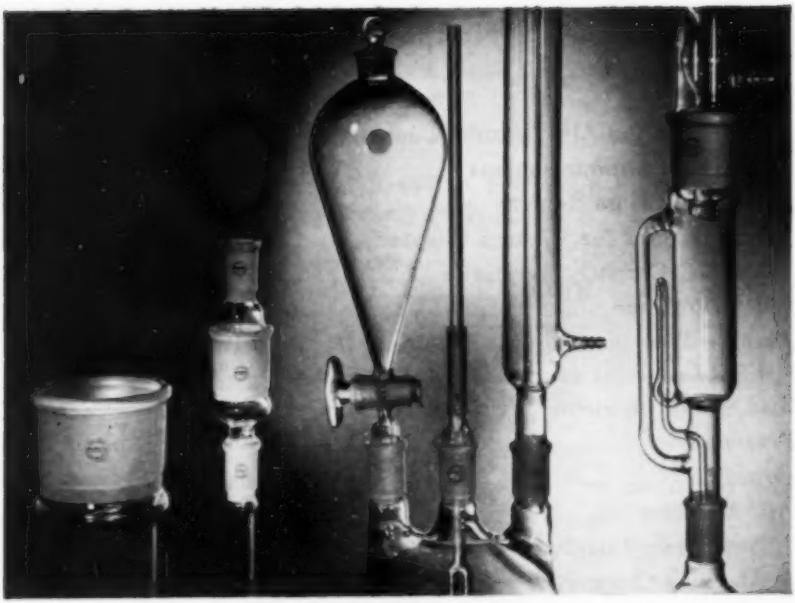

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EDITORIAL

All About the AIC National Council

WITHIN this issue of THE CHEMIST there is a section entitled, "National Council Operations —a Manual for National Officers and Councilors." This manual was prepared at the request of the National Council by a committtee, headed by Dr. Maurice J. Kelley, with the following members: Miss Florence E. Wall, Karl M. Herstein, Guy A. Kirton, John Kotrady, and Dr. Henry B. Hass, *ex-officio*. Originally intended only as a guide for incoming officers and councilors, in its final form it contained so much information about the AIC that it is printed here for every member to read.

The Council is not able to render its greatest service unless AIC members cooperate to keep it informed of those problems of professional interest that need to be considered, and of those professional areas that require attention. Any AIC member may bring matters to the attention of the Council by writing to the AIC secretary or other officer, or by taking up the matter with the Council representative from his local Chapter. The Council carefully considers all matters brought before it, and, if necessary, can create special committees to prepare recommendations.

If AIC members will take an active interest and will share their thoughts with the National Council, the AIC will most assuredly attain its objectives.

Special AIC Announcements

President Hass Returns

Dr. Henry B. Hass, AIC President, has returned from his European trip, which included a climb to the top of the Matterhorn. He is president of the Sugar Research Foundation, 52 Wall Street, New York 5, N. Y.

While in Europe, he attended the Annual Meeting of the Society of Chemical Industry at Leeds, Yorkshire, England, and the 16th Congress of the International Union of Pure and Applied Chemistry in Paris.

New Officers For Western Chapter

Chairman, Alfred J. Webber, 11703 Montana Ave., Los Angeles 49, Calif.

Chairman-elect, Thomas J. Kehoe, 921 S. Washington Ave., Fullerton, Calif.

Treasurer, Charles W. Henning, 1145 Rosalind Road, San Marino 9, Calif.

Senior Secretary, Paul C. Ressler, Jr., 2115 Crescent Ave., Montrose, Calif.

Junior Secretary, Quentin H. Coffman, 1624-19th St., Manhattan Beach, Calif.

National Council Representative, Richard M. Fullaway, Standard Oil Co. of California, Box 397, La Habra, California.

To AIC Chapter Secretaries

Please send to THE CHEMIST the dates and programs of meetings of your Chapter for the coming year, for listing in the calender of AIC meetings.

Will You Come

Sept. 13, 1957. Alabama Chapter dinner and meeting. Birmingham. Speaker: Dr. H. W. Ritchey, Technical Director, Redstone Arsenal Division, Thiokol Chemical Corp., Huntsville. Subject, "A Chemist's View of Solid Propellant Rocketry." For information: Martin B. Williams, 402 E. Holmes St., Huntsville, Alabama.

Oct. 1957. (Day to be Announced). Alabama Chapter. Dinner and Meeting. Speaker: Dr. Charles R. Scott, Professor of Industrial Management, University of Alabama. For information: Martin B. Williams, 402 Holmes St., Huntsville, Alabama.

Oct. 3, 1957. Pennsylvania Chapter, AIC Dinner meeting. 6:30 p.m. The Engineers' Club, 1317 Spruce St., Philadelphia, Pa. Speaker, Dr. R. Graeme Smith. Topic, "Horatio Alger Today or the Owner-Manager in the Big City Pattern." Reservations, Dr. T. M. Immediata, International Resistance Co., 401 North Broad St., Philadelphia 8, Pa.

Oct. 8, 1957. New Jersey Chapter. Dinner and Meeting. Military Park Hotel, Newark, N.J. Panel discussion, "The Value of Summer Employment of High School Science Teachers." Moderator, Clifford Ayers of Borne Chemical Co. Speakers: George Probst, director, Thomas Alva Edison Foundation; Louis Auerbach, chairman, Science Dept. of Newtown High School, Elmhurst, N.Y.; Dr. L. E. Moody, Research & Engineering Division, Esso Standard Oil Co. Question period. Reservations, including gratuities, for the dinner at 6:30 p.m. will be $3.65. Secretary: Dr. J. F. Mahoney, Merck & Co., Inc., Rahway, N.J. (Telephone: FUlton 8-1200, Ext. 3254.)

Oct. 10, 1957. Chicago Chapter. Dinner and meeting. The Furniture Club, Chicago, Ill. Presentation of Honor Scroll to Dr. Herman S. Bloch, Universal Oil Products Co. Speakers: Dr. Herman E. Ries, Jr., Standard Oil Co. (Indiana); Dr. Hyolande Young, Argonne National Laboratories, and AIC President, Dr. Henry B. Hass. Reservations: ($6.00), Helen Selin, 6916 No. Wayne Ave., Chicago 26, Ill.

Oct. 15, 1957. AIC Board of Directors and National Council meeting, The Chemists' Club, 52 E. 41st St., New York 17, N. Y. Board meets at 5:30 p.m., Council at 6:00 p.m.

Nov. 1957. (Day to be announced.) Alabama Chapter. Dinner and Meeting. Speaker to be announced.

Nov. 5, 1957. (Tentative date). New Jersey Chapter. Meeting to be held in conjunction with Rutgers University Student Affiliate Chapter of The American Chemical Society. Subject: "How to Get a Satisfactory Job."

Dec. 17, 1957. AIC National Council and Board of Directors Meeting, The Chemists' Club, 52 E. 41st St., New York 17, N.Y. Board meets at 5:30 p.m.; Council at 6:00 p.m.

Jan. 7, 1958. New Jersey Chapter. Subject, "Employer-Employee Relationships." Details to be announced.

Feb. 18, 1958. AIC Board of Directors and National Council Meeting, The Chemists' Club, 52 E. 41st St., New York 17, N.Y. Board meets at 5:30 p.m.; Council at 6:00 p.m.

Mar. 11, 1958. New Jersey Chapter. Visit to Anheuser-Busch Brewery. Details to be announced.

April 10-11, 1958. Thirty-fifth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Ambassador Hotel, Los Angeles, California. Host: The Western Chapter.

May 13, 1958. New Jersey Chapter. Honor Scroll Meeting. Program to be announced.

The Need for Stereoscopic Thinking

Dr. John B. Entrikin, F.A.I.C.

Chairman, Department of Chemistry, Centenary College, Shreveport, La.

(Presented when the author received the Honor Scroll of the Louisiana AIC Chapter, May 7, 1957, New Orleans, La.)

PROF. C. A. Coulson, professor of applied mathematics at Oxford, in his excellent book, *Science and Christian Belief,* uses an illustration that I wish to adopt to my subject, "The Need for Stereoscopic Thinking." He points out that if one studies a single sheet of a set of blueprints of a large building, he really has no idea what the building will look like nor what its uses will be. Each blueprint is true and represents certain details of fact, but considered alone, it could lead to erroneous conclusions about the total building. Only as one's mind is able to reflect on every single sheet of the set of blue prints and envision them stereoscopically (not superimposed) can one get real meaning from them.

Scientists sometimes feel that non-scientists arrive at their conclusions by intuition, expediency, emotional reactions, or worse, while they, the scientists, only arrive at conclusions that are based on facts. I fear that too often we consider only the facts on a few sheets of the total set of "blueprints" that relate to the problem before we draw conclusions. Furthermore, we are inclined to accept as facts only those observations that have been obtained by methods accepted by our own field of specialization. "The whole is equal to all of its parts," and no single road or closely related road-system leads to ultimate truth. The part-truths obtained from various approaches must be stereoscopically viewed. There is much to be pondered in the phrase found on some coupons: "Not good if detached."

Let us consider some problems that face us as chemists:

The general causes for the shortage of scientists have been widely discussed: Too few students are studying science and too few qualified people are teaching it. What can be done to remedy both situations?

If we place all of the commonly suggested causes for the shortage of really good teachers in a distilling flask and distill the mixture, we will find two predominant components and traces of others. About 85% say it is low salaries, as compared with industrial salaries for science majors; about 10% say it is the low esteem in which the teaching profession is held by the public ("Oh, he is just a teacher"); the remaining 5% include such things as the routineness of the work, slow promotions, school policies, discipline problems, and the like. Each of these suggested causes is real, effective, and should be remedied.

But the removal of all these handicaps will not solve the shortage of really good teachers.

A person must have three characteristics before he can be successful at anything he undertakes. (1) He must want to do it; (2) he must know how to do it, and (3) he must be able to get along with other people while he does it.

To prevent frustration, the individual needs to make as nearly identical as possible three things: (1) What he wants to do; (2) what he sincerely feels that he ought to do, and (3) what he actually does. The person who wants to teach but feels that he ought to take the higher salary that industry offers is likely to be a frustrated, unhappy, and ineffective individual, regardless of whether he teaches or goes into industry. In such cases, adequate salaries are an answer to the shortage of teachers. But you cannot make a person *want* to teach just by paying him a high salary.

How can we develop the desire to teach in the right young people? We can begin by improving the objectionable features of the profession. We must pay higher salaries based on ability and the law of supply and demand, and not mainly on the degree held and the length of service. We can initiate an effective public relations program on behalf of teachers to show the public their real importance. We can see that those who counsel students point out to them the many advantages of being a teacher. But beyond all these things, we must work at all levels of society to create in people the idea that other values are more important than money and that every person should have a purpose in living that will utilize his abilities (or those he is capable of acquiring) for the greatest good.

Why do not more students major in science in college? For a student to major in science, he must (1) want to do it; (2) he must know how to do it, and (3) he must be able to get along with people while he does it. The plain fact is that only a small minority of the present day college students want to major in science. Unfortunately, a still smaller number know how to do it. In some respects, these two facts are intimately related. Desire can be developed in a child by a combination of motivation and information, but both are required. The child is curious about his environment. He can ask more questions about natural science than a half-dozen ordinary adults can answer. But generally he does not get "answers" and his interest and curiosity are soon stifled.

The two groups who have the greatest chance to direct students into the study of science and to prepare them for later specialization in it are parents and the elementary and junior high school teachers. Yet these groups have received the least attention in our programs for increasing

the number and quality of scientists. If, by the time a student gets to senior high, he has largely lost his spirit of inquiry into his natural environment, or if he has not learned to understand, almost to love, arithmetic, he is likely to take the minimum of science and mathematics in high school. Logically, when he gets to college, he is neither interested in nor prepared for the study of sciences. He finds logical thinking and reasoning difficult, and unless he has a really inspiring and understanding teacher and a science-slanted counselor, he will not consider going into science. The lack of a working knowledge of elementary mathematics is alone enough to stop most college freshmen before they get well-started in college mathematics, physics, or chemistry.

Here is what the chemistry teacher may do to help solve these problems: First, do some stereoscopic thinking and try to get a three-dimensional picture of the related facts. Of the college chemistry teachers, the teacher of freshman chemistry has the greatest opportunity to direct students into a science major. He bears also the greatest responsibility for discouraging them out of the field. He needs to be a "Jack-of-all-trades" but he must also be the master of several trades. He must have a broad understanding of chemistry and its related fields; he must understand and love students; he must have good communication abilities; he must be able to inspire students as well as to inform them, and he must be able to integrate the discussion of chemistry with all fields of knowledge and with "life." Recently, General Electric Company surveyed several thousand employees who were college graduates and it found that they had been influenced as much by the character and personality of their former teachers as they had been by the subject matter. One of my professors in graduate school stated to the class, "Unless you are willing to be a chemist 24 hours a day, 7 days a week, you are not fit to be a chemist." One of the men in the class got up, walked to the door, and said, "If I can't be a chemist and a human being, I believe that I will be a human being." He kept on walking.

The greatest job that the freshman chemistry teacher has is to try to make students want to learn and to convince them that they can learn to think inductively and deductively. Our real objective in teaching chemistry is not to pack isolated facts into the student's head but to help him develop the ability to think with and about facts and to understand their implications. The word "educate" means to draw out. Too much so-called teaching is merely a "pouring in" process. To use a biochemical comparison, unless the ingested material is properly metabolized in the mind of the student, mental indigestion rather than mental growth results. The teacher cannot metab-

olize for the student. He can be the enzymatic systems that catalyze the processes that must occur if healthy mental growth is to take place.

The majority of those students who enroll in freshman chemistry are not going to become scientists. But most of them are going to become parents and some are going to become elementary school and junior high school teachers. We should try to influence their attitudes toward science so that the college freshmen of the future will be more interested in science and be better prepared to study it.

If the student leaves freshman chemistry with an understanding of the general principles of the subject and inspired regarding its interesting potentialities he is likely to take another course in it. It is the responsibility of succeeding teachers to maintain his interest and to help him to develop his mental and manual skills in the field. We can present the facts and indicate the general principles; we can teach the best laboratory methods, but unless we continually inspire the student to want to learn and develop himself to his maximum potential, we will either lose the student from the field of chemistry, or at best we will turn out a good technician.

To develop real scientists we must have a series of "temporary compounds" formed between capable students and inspiring teachers. The teacher should serve as the catalyst for the reaction between the student and the accumulated knowledge and acquired skills of the race. Some rather unpromising material may react in the presence of an effective catalyst to produce compounds of great importance. Ineffective catalysts do not promote reactions between even high quality materials. Ineffective catalysts may often be activated. Even good catalysts may be poisoned.

Following this line of thinking, in order to produce good scientists we need the following production conditions:

(1) High quality raw materials: Students of good native ability who have learned how to think as well as to memorize; the best possible arrangement of the facts, principles, and skills that are to be learned.

(2) Teachers who are effective catalysts for the reactions that must take place between the students and what they should learn. The basic effectiveness of these teacher-catalysts must be activated and promoted by all possible means. Serious attention must be given to prevent loss of their efficiency due to poisoning because of various frustrations.

(3) A suitable reaction vessel must be available in which the raw materials and the catalyst may react. This includes adequate physical facilities, libraries, and equipment.

(4) Carefully selected operating conditions—"time, energy input, and pressure." Raw materials of different quality in contact with catalysts of

varying degrees of effectiveness require different amounts of time for the desired reaction to occur. Improper temperature or pressures may cause side-reactions to outproduce the desired product. If we are to convert the students into the best qualified scientist of which each is capable, we must recognize their individual differences and adjust the factors of time, energy input, and applied pressure to their individual needs. The small college has an advantage in this area.

These production conditions indicate that the product is going to be costly in money, time, and effort. They should be worth all that they cost. Let us hope that they will have a sense of purpose as well as a recognition of their power and that they really want to do what they feel they ought to do.

The Master Instructor

Prof. Paul F. Bailey, F.A.I.C.

Department of Chemistry, Loyola University, New Orleans, La.

(Presented when Dr. Entrikin received the Honor Scroll of the Louisiana Chapter, AIC, New Orleans, May 7, 1957.)

DR. John B. Entrikin, F.A.I.C., chairman of the Department of Chemistry of Centenary College, Shreveport, La., who has done much for chemical education and the chemist in Louisiana, is a native of Kansas. He received the A.B. and M.A. degrees from Southwestern University of Texas, where he served as instructor for three years before transferring to Temple Junior College (Texas) when it opened. There he had the responsibility of equipping the laboratories and organizing the courses in chemistry and biology. He completed this task in 1927 and entered the graduate school of the State University of Iowa, receiving the doctorate in chemistry in 1929. That same year he became professor and head of the Department of Chemistry at Centenary College.

As a teacher, he has had a profound influence upon many young men and women. He has achieved that inspirational quality in his teaching that characterizes the master instructor and the molder of men. As a scholar and gentleman he has also been able to capture the imagination of his students; to arouse their interests, and to encourage them to increase their formal training. Probably no one has influenced so many students to do graduate work in the field of science than has Dr. Entrikin. In the past twenty years, approximately fifty per cent of his chemistry graduates have gone on to graduate school for advanced study. He has

always insisted that his students get a broad background and adequate training in fields which make them better citizens and leaders in their communities.

He has been an invaluable asset not only to Centenary College, but also to THE AMERICAN INSTITUTE OF CHEMISTS, the Louisiana Academy of Sciences, the American Chemical Society, and the Amerian Association for the Advancement of Science, and to those who are interested in the scientific development of our country from both an applied and cultural point of view.

He has written many articles that have appeared in scientific journals. Perhaps his best known work is the widely used book, *Semimicro Qualitative Analysis*, which he co-authored with Dr. Cheronis.

In addition, Dr. Entrikin has served the industrial people of his community as a consultant on many occasions. He has earned the deep respect of the people of our State and of the Southwest area generally.

For his good work, he has received many honors. He served as president of the Louisiana Academy of Science; was chairman of the Local Section Officers Group (National), American Chemical Society, and is listed in *Who's Who in America, American Men of Science, Who's Who in Chemistry, Who's Who in American Education,* and *Who's Who in Methodism.*

A teacher's students and his fellow workers should be good judges of his ability, personality, and moral character. Here are a few remarks received from them about Dr. Entrikin:

From a colleague:

"I have always held the greatest admiration and appreciation for his personality and ability. As a classroom teacher, I do not believe he can be surpassed. As a member of the science department he is held in great esteem by all of his colleagues—in fact he is our leader. Almost without exception all ideas leading to progress and improvement in the science division have originated with him. The fine reputation Centenary holds in science should be credited to him . . . At no time has he sought personal gain. Who else could be more deserving of honor. . ."

From students:

"He is not only a fine person but an instructor who is not surpassed here. Without his guidance as chemistry teacher and head of the chemistry department, this department would be far from adequate; whereas, with his teaching it is more than adequate."

"He is not merely a teacher satisfied that his students come out with a minimum knowledge of the material he is teaching, nor does he try to isolate his teaching from reality. He frequently goes far beyond that which is required of him as a teacher. He is genuinely interested in each individual student."

"His knowledge of science and its influence on government and world policies, which he at times cites, help the student to understand that he is not merely taking a course that has no real value, but, on the contrary, that what one learns will have practical use in the future."

"His knowledge of science and its influence on government and world policies, which he at times cites, help the student to understand that he is not merely taking a course that has no real value, but, on the contrary, that what one learns will have practical use in the future."

"One of the finest men I have ever met. As a teacher, one of the best."

"He is wonderful. He is easy to understand. He gets across complicated ideas in a simple manner. He helps students in many ways— getting them scholarships and good job contacts. As good a teacher as I have ever had. Couldn't ask for more in a teacher."

"Besides being tops in his field, he is one of the most well-rounded persons I have ever had the pleasure to meet. I have gained much in knowing Dr. Entrikin, both as a teacher and as a person."

"Without his help and encouragement, I don't think I could have gotten so far as I have in my chosen field of study. I will always be grateful to him for his kind and able assistance in helping me get started on a happy and useful career."

"I find it difficult to express my actual feelings toward a man who has made such an impression upon me. In the short time that I have been enrolled at Centenary, this quiet, reserved man—as my faculty advisor, has taken a personal interest in me as a pupil and as an individual—I have found this true in all cases where a student of his needs advice concerning his college work or his personal life. Dr. Entrikin, as a teacher, is patient and understanding. He makes his subject interesting and seems to view teaching as more than a mere job. His presentation is warm and personal. He seems to enjoy teaching and his association with each student. I believe his intelligence goes far deeper than a thorough knowledge of his lecture subject. I feel that any student who has had contact with Dr. Entrikin shares my feelings. Although I had not planned to return to Centenary next year, I have lately been seriously considering returning in order to take more advanced chemistry courses under him."

Presentation

THE Louisiana AIC Chapter presented its Honor Scroll Award to Dr. John B. Entrikin, F.A.I.C., chairman, Department of Chemistry, Centenary College, Shreveport, La., at a meeting held at Harold's Restaurant, New Orleans, on May 7, 1957.

The chairman of the Chapter, Carroll F. Hoffpauir, of the Southern Regional Reseach Laboratory, U.S. Department of Agriculture, presided. Prof. Paul F. Bailey of Loyola University introduced Dr. Entrikin, who accepted the Honor Scroll with an address on "The Need for Stereoscopic Thinking." (See preceding pages.)

Dr. W. R. de Monsabert, professor of chemistry at Loyola University, and chairman of the Awards Committee, presented student medals for outstanding scholarship in chemistry to Miss Barbara Broussard of Loyola University; Vernon L. Wagner of Tulane University, and Bill Henry Simmons of Louisiana State University. Other students in the geographical area covered by the Louisiana Chapter who received AIC student medals at commencement exercises of their colleges, were: Miss Edith Margaret Wilson, University of Texas; William H. Winn, Georgia Institute of Technology; Miss Loretta I. Castellino, Florida

State University; Aubrey D. Skelton, Mississippi State College; Edward J. Cooper, University of Arkansas; Paul Gwinup, Oklahoma A & M College, and Garland Boyd, Jr., University of Mississippi.

The citation on the Honor Scroll to Dr. Entrikin reads:

"In recognition of thirty four years of inspiring leadership through teaching, writing, and research in chemistry."

Senate Asked to Restore BDSA Funds

The Manufacturing Chemists' Association, Washington 6, D.C., has urged the Senate Appropriations Committee to restore funds to the industry operations of the Business and Defense Service Administration of the Department of Commerce. The House of Representatives had previously eliminated all funds for the industry divisions of BDSA.

Chemical Engineering Congress: with ACHEMA Congress, will be held in Frankfurt am Main, Germany, May 31-June 8, 1958. A brochure is available without charge from DECHEMA Deutsche Gesellschaft fuer chemisches Apparatewesen, EV., Frankfurt am Main 7, Postfach.

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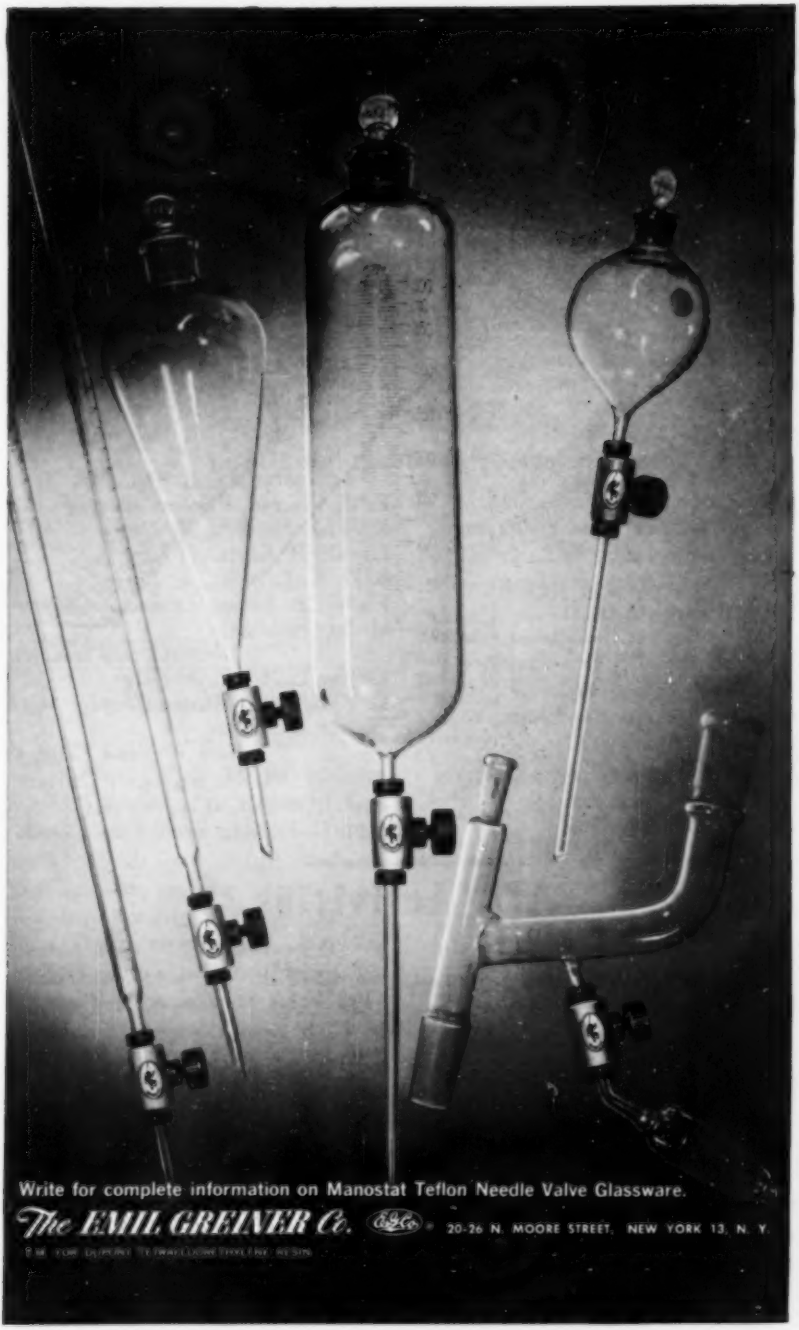
Sesquicentennial Anniversary: Celebrated this year by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y., technical publishers. Dr. Henry T. Heald, president of the Ford Foundation, spoke at the 150th Anniversary dinner in May.

Conference: To be held by the American Standards Association, at the St. Francis Hotel, San Francisco, Calif., Nov. 13-15, 1957, in conjunction with its 39th annual meeting.

Fulbright and Buenos Aires Convention Scholarships: For those with B.S. degree, at predoctoral level, and under 35. For information: Institute of International Education, 1 E. 67th St., New York 21, N.Y.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AIC Activities

New Jersey Chapter

Chairman, Dr. W. R. Sullivan
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Secretary, Dr. John F. Mahoney,
Merck & Co., Inc., Rahway, N.J.
Treasurer, Dr. Curt Bamberger
National Council Representative,
Dr. Max Bender

First Meeting of Season

The New Jersey Chapter will hold its first meeting of the season on Oct. 8, 1957, at the Military Park Hotel, Newark, N.J., with dinner at 6:30 p.m., and program at 8:00 p.m.

A panel discussion will be held on "The Value of Summer Employment of High School Science Teachers." Clifford Ayers of Borne Chemical Co., will act as chairman and moderator. Speakers will be George Probst, director, Thomas Alva Edison Foundation, on the efforts and plans of the Foundation in aiding the high school teacher; Louis Auerbach, chairman, Science Depart-

ment, Newtown High School, Elmhurst, N.Y., who will give his opinion of summer employment in industry; Dr. L. E. Moody, Research & Engineering Division, Esso Standard Oil Co., who will present industry's evaluation of employing teachers during the summer. Members of the audience may ask questions of any of the speakers. Please make reservations for the dinner ($3.65) with the Chapter Secretary. (See above).

Alabama Chapter

Chairman, Dr. Charles E. Feazel
Secretary, Martin B. Williams, 402 East Holmes St., Huntsville, Alabama.
Treasurer, William C. Ingersoll
National Council Representative, Dr. Emmett B. Carmichael

"Program Appeal Quotient"

Idea for Program Committees

The Alabama Chapter has sent out to its members a sheet entitled "PAQ", or "Program Appeal Quotient." It says, in part, "Probably what interests you also interests a lot of other chemists and chemical engineers. How about checking 5 or 6 topics that you'd like to hear discussed, and/or other subjects and speakers that have a high PAQ?" The following subjects are then listed, followed by space for other suggestions:

Problems of Young Chemists and Engineers
Adequate Rewards for Chemists
The Scientist in Politics
Chemists, Doctors, Lawyers—and Money
Employment Contracts—Pro and Con
Is There a Free Market for Scientists?
Would You Advise Your Son to be a Chemist?
Personal Problems of Scientists
Employment Problems of the "Forty Plus" Group
Unionization—Pro and Con
How to be Successful in Directing Research
Are Chemists Rewarded for their Role in Creativity?
What Does the Chemist Expect of His Employer?
What Does Management Expect of the Chemist?

It concludes with: "If you'd be willing to serve on a committee, have suggestions for Chapter activities, or have ideas that you'd like to share with others, please list below."

Chicago Chapter

Chairman, Dr. Harold M. Coleman
Chairman-elect, Albert S. Henick
Vice Chairman, John Krc, Jr.
Secretary, Miss Rose Marie Brunetti, Armour Research Foundation, 10 W. 35th St., Chicago 16, Ill.
Treasurer, Dr. C. A. Johnson
National Council Representative, Bernard E. Schaar

Committee on Economic Status of Chemists

Idea for Committee Activity

The publication of the Chicago Chapter, the *Newsletter,* informs us that the 1956-1957 Committee on tht Economic Status of chemists is continuing the program initiated by the preceding year's Committee which conducted a survey of job titles used by employers in the greater Chicago area. (See report beginning on page 25, January 1957 CHEMIST.) The new investigation involves salaries in the same geo-

graphical area. Questionnaires have been prepared and submitted. Results will be available during the 1957-58 fiscal year. The Economic Status Committee should be commended for its excellent work in providing a service to employers of professional chemical personnel in addition to fulfilling its primary objectives of increasing the status and welfare of its members.

John B. Calkin, F.A.I.C., president of Calkin & Bayley, industrial consultants, 50 East 41st St., New York 17, N.Y., has announced that Winfield I. McNeill has been elected as vice president.

Joseph F. Padlon, F.A.I.C., is now associated with Fred A. Klein, for the practice of patent, trademark and copyright law, under the name of Klein & Padlon, 165 Broadway, New York 6, N.Y.

Dr. Ulric B. Bray, F.A.I.C., general manager, Aircraft & Chemical Divisions of Bray Oil Co., Los Angeles 63, Calif., has announced that Robert F. Connelly, M.A.I.C., has been appointed sales manager.

Donald B. Sparrow, F.A.I.C., has joined the Research and Development Division of Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

Don C. Atkins, Jr., F.A.I.C., is now assistant chief engineer at United States Chemical Milli g Corp., Manhattan Beach, California.

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Samuel B. McFarlane, F.A.I.C., is now manager of the Fiber Research Department of the Research Laboratories of Celanese Corporation of America, Summit, New Jersey.

Dr. Steward J. Lloyd, F.A.I.C., received the Herty Medal of the Georgia Section of the American Chemical Society at a meeting held with the Georgia Academy of Science, in Milledgeville, Georgia, May third.

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Dr. V. L. Shipp, F.A.I.C., petroleum and asphalt consultant, New York, N.Y., has joined the faculty of Brooklyn Polytechnic Institute, Brooklyn 1, N.Y., as adjunct professor of chemical engineering.

Joseph K. Roberts, F.A.I.C., vice president, Standard Oil Company (Indiana), announces that additional laboratory facilities for research on solid rocket propellants will be built for the U.S. Air Force at Freeman Field, Seymour, Indiana.

Mathew M. Braidech, F.A.I.C., research director, National Board of Fire Underwriters, New York 38, N.Y., received the Benjamin G. Lamme Medal on June 7th, from Ohio State University, Columbus, Ohio, in recognition of meritorious achievement in engineering research.

Harry B. McClure, Hon. AIC, vice president, Union Carbide Corporation, New York, N.Y., has been elected chairman of the executive committee of the Manufacturing Chemists' Association, Inc.

Dr. R. P. Parker, F.A.I.C., has been appointed manager of the Research Division, American Cyanamid Co., New York 20, N.Y.

Dr. William H. Armistead, F.A.I.C., vice president, Corning Glass Works, Corning, N.Y., announces a new composition of crystalline materials made from glass, called Pyroceram. The first commercial use will be for a guided missile radome.

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Kenneth H. Klipstein, F.A.I.C., is now vice president for personnel relations, Research Division, American Cyanamid Company, New York 20, N.Y.

Dr. Harold J. Dawe, F.A.I.S., is now research director for Acheson Industries, Inc., Port Huron, Michigan.

Dr. Everett G. McDonough, F.A.I.C., executive vice president of Evans Research & Development Corp., New York 17, N.Y., announces a new service in the field of home economics and the creation of a new section, headed by Dr. Natalie K. Fitch and Mrs. Jean D. Hewitt.

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Dr. Roger H. Lueck, F.A.I.C., vice president in charge of the research and technical department of American Can Co., will give the Keynote address at the Annual meeting of the Federation of Paint & Varnish Production Clubs, Bellevue-Stratford Hotel, Philadelphia, Oct. 30-Nov. 2, 1957.

Dr. Robert S. Aries, F.A.I.C., of Aries Laboratories, Inc., Stamford, Conn. read a paper at the 16th International Congress of Pure & Applied Chemistry, Paris, France, July 16th, on a new process for the manufacture of ultra pure silicon for electronic applications.

Stephen G. Capkovitz, F.A.I.C., is now manager of the Perfume, Flavor, and Aromatic Chemicals Division of S. B. Penick & Co., 50 Church St., New York 8, N.Y

Dr. William P. Cain, A.A.I.C., is now research chemist with Esso Research & Engineering Co., Linden, N.J. He received the Ph.D. degree from Columbia University in June.

Dr. Morton W. Leeds, F.A.I.C., has been promoted to supervisor of Organic Chemicals Development, Air Reduction Corporation, Murray Hill, N.J.

Dr. Davis R. Dewey, II, F.A.I.C., is now president of Baird-Atomic, Inc., 33 University Road, Cambridge 38, Mass.

Dr. Theodore E. Gilbert, M.A.I.C., is now with Devoe & Raynolds Co., Inc., Louisville, Ky.

Dr. Robert E. Brouillard, F.A.I.C., is assistant manager of the Pigment Division of Dyestuff & Chemical Division of General Aniline & Film Corp., New York 17, N.Y.

Dr. F. A. Lowenheim, F.A.I.C., is technical advisor to Dr. C. K. Banks, vice president of research and development, at Metal & Thermit Corporation, Rahway, N.J.

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Dr. Peter J. W. Debye, F.A.I.C., emeritus professor of chemistry, Cornell University, and Nobel Laureate, received the $1000 Kendall Company Award in Colloid Chemistry, at the American Chemical Society meeting in Miami.

Otto T. Aepli, F.A.I.C., has been promoted to head of the Analytical Section of the Pennsalt Chemicals Corporation plant at Wyandotte, Michigan.

Dr. John H. Yoe, F.A.I.C., University of Virginia, Charlottesville, Va., received the Fisher Award in Analytical Chemistry at the recent American Chemical Society meeting in Miami, Florida.

Dr. Clarence A. Stiegman, F.A.I.C., has been made director of product development of Hooker Electro-Chemical Co., Niagara Falls, N.Y.

Dr. Malcolm M. Renfrew, F.A.I.C., of Spencer Kellogg & Sons, Inc., Buffalo 25, N.Y., has been elected chairman of the Organic Chemists' Club of Western New York.

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Dr. Harvey A. Neville, F.A.I.C., provost and vice president of Lehigh University, Bethlehem, Pa., announces that Dr. Robert L. Stubbings, F.A.I.C., has been promoted to associate professor of chemistry.

Arthur W. Carpenter, F.A.I.C., of Akron, Ohio, consultant on rubber technology, has been awarded the 1957 Charles Goodyear Medal of the Division of Rubber Chemistry of the American Chemical Society.

Dr. Roger Adams, Hon. AIC, of the University of Illinois, Urbana, Ill., received an honorary D.Sc. degree at the commencement ceremonies of the university, where he has been a member of the staff since 1916.

Dr. Robert Hill Kean, F.A.I.C., consultant to Virginia-Carolina Chemical Corporation, received the 1957 Distinguished Service Award of the Virginia Section of the American Chemical Society, at the Officers' Club of Virginia, Richmond, on June 7th. He was cited for "his outstanding contribution to the professional standing of chemists."

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Analytical chemist, diversified commercial testing. Metropolitan New York location. Box 94, THE CHEMIST.

Chemist: Ten years' experience in control, development, production management and supervision of personnel. Will relocate. Box 96, THE CHEMIST.

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Special Fellowships: In Nuclear Technology. For information: Fellowship Office, Oak Ridge Institute of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.

Careers: In Nuclear Science & Engineering. Conference. New York Coliseum, New York, N.Y., Oct. 29, 1957, sponsored by Committee on Education of the Atomic Industrial Forum. Request information from the secretary of the Committee, A.I.F., 3 E. 54th St., New York 22, N.Y.

Acquired: By S. B. Penick & Co., New York 8, N.Y., the Aromatic Chemical Compounding Department of the Dow Chemical Co.

Arthur D. Little, Inc., Cambridge, Mass., is making an industrial survey of manufacturing opportunities in the Charleston, South Carolina, area.

Moved: The Air Pollution Foundation to 2556 Mission St., San Marino, California.

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NATIONAL COUNCIL OPERATIONS

A Manual For National Officers and Councilors

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THE AMERICAN INSTITUTE OF CHEMISTS
60 East 42nd Street
New York 17 N. Y.
July 1, 1957

SECTION I. THE INSTITUTE AND ITS PURPOSES

A. A BRIEF HISTORY

The American Institute of Chemists was founded in 1923 by a group of chemists with foresight, centered around the metropolitan New York area, who sought to advance the professional position and improve the economic status of chemists in the United States. Chief among these organizers and early officials were Horace G. Byers, THE INSTITUTE's first President; Lloyd Van Doren, the first Vice President; Clarence K. Simon, the first Treasurer; Frederick D. Crane, LeRoy Seidel, Albert P. Sachs, Miss Calm M. Hoke, William L. Prager, H. P. Trevithick and Moses L. Crossley.

These chemists knew that, to accomplish the above purposes, it would be necessary to make every chemist appreciate his position as a member of a highly trained, basic profession, and to inform the public about the importance of the chemist in our social system.

Usually appealing to the more mature thinking chemist, INSTITUTE membership grew slowly in those early days; but the meetings, mostly in New York, were beginning to achieve the education and inspiration of the chemist and the public alike. By 1925, Chapters were established in Illinois, New Jersey, New York, Pennsylvania, and Washington, D.C., to take care of chemists over a greater geographical area; and by 1933, total membership had grown to 700. By 1945, the programs of the Annual Meeting of THE INSTITUTE required two or more days, and attracted the best authorities in the country as speakers on professional subjects, usually in one or more integrated symposia.

"The Chemist", monthly journal of THE INSTITUTE, was started in 1928, and has prospered greatly over the years as a means of disseminating articles on topics related to the professions of chemisty and chemical engineering.

THE INSTITUTE established its Gold Medal in its earliest days, and this annual award in recognition of outstanding accomplishments in the interests of the profession of chemist and chemical engineer has become one of the most prized awards in America. The first award was made in 1926 to William Blum; other early recipients were Lafayette B. Mendel in 1927, Mr. and Mrs. Francis Patrick Garvan in 1929, George Eastman in 1930, and Andrew W. and Richard B. Mellon in 1931. The list continues to include the very top ranking chemists, chemical engineers, and chemical industrialists who have contributed so brilliantly to the furtherance of their profession.

Since THE AMERICAN INSTITUTE OF CHEMISTS was founded, both members and non-members have become more and more conscious of professional status and objectives. As a result THE INSTITUTE, acting in part directly and in part through its influence on sister societies representing chemistry, has contributed very greatly to the advance made by the chemical profession during the past three decades.

B. OBJECTIVES OF THE INSTITUTE

The backbone of THE INSTITUTE has always been the statement of Objectives, as originally defined in the Constitution:

> "To advance the profession of chemist and chemical engineer in the United States of America . . . to this end it will:
>
> (1) Provide and enforce a code of conduct which merits public esteem and justifies confidence in the integrity of the chemist and chemical engineer;
>
> (2) Establish and maintain a standard of proficiency of such excellence as to insure competent and efficient service;
>
> (3) Secure an adequate basic training for the professions and admit to fellowship in the Institute only those of proved education, experience, competency and character;
>
> (4) Strive to enhance the prestige and distinction of the professions so as to extend their influence and usefulness;
>
> (5) Establish and maintain a register of its membership in which there will be a complete record of the training, experience, and fitness for service of each individual member;
>
> (6) Seek to improve the economic status of the professions by cooperating with employers and the public to secure a satisfactory appreciation and evaluation of the services of the chemist and chemical engineer;
>
> (7) Provide a means for the appropriate recognition of distinguished service to the professions;
>
> (8) Cooperate with all the agencies serving chemistry to make the professions of chemist and chemical engineer powerful factors in the advancement of intellectual and material progress in the United States of America;
>
> (9) Lend support to the work of the chemical societies in the education of the public to a better appreciation of the contribution of the chemist and chemical engineer to world progress, and
>
> (10) Render such other service to the professions as developments shall warrant and The Institute shall approve."

C. MEMBERSHIP

The A.I.C. has always sought its membership from among the outstanding chemists and chemical engineers in the country, and full membership, or that of Fellow, has severe requirements. A Fellow must have a record of scientific achievement, normally requiring no less than ten years of progressive experience and responsibility. Those who do not meet these requirements at the time they apply for admission may be accepted as Members or Associates at prescribed earlier periods in their careers.

Each application for membership is carefully scrutinized by the A.I.C. Committee on Qualifications. After he is admitted, the member must adhere to THE INSTITUTE's Code of Ethics in order to retain membership. This and other requirements serve to identify A.I.C. members as chemists and chemical engineers of high professional standing.

There are also special grades of Fellows:

Honorary Members—a limited number are carefully elected to this status.

Life Members—who pay a fixed sum of money at one time.

Emeritus Fellows—senior Fellows who are retired from active, income-producting practice of the professions.

D. CONSTITUTION

The original Constitution of THE AMERICAN INSTITUTE OF CHEMISTS was adopted in 1923, and remained with little change thereafter. In 1953-54, the Constitution and By-Laws were thoroughly studied by a Committee headed by Mr. Benjamin Sweedler, and much of it was rewritten to effect greater clarity and to restore complete consistency among all sections. It was also desired to create the status of Emeritus Fellow; to add specific provisions pertaining to dissolution of Chapters, to the duties of the Council, Board of Directors, and the Officers, to the termination of membership, and to emphasize the equal appeal of THE INSTITUTE both to chemists and to chemical engineers.

It is important that every officer and councilor be familiar with the Constitution. It is suggested that each Member of the National Council have his copy of the latest directory booklet containing the Constitution and By-Laws with him when attending Council or committee meetings.

The Constitution and By-Laws cover the following topics which, indeed, are many of the same subjects on which National Councilors will be expected to deliberate during their term of office.

CONSTITUTION
Name and Objectives
Membership
The Council, Officers and Manner of Election
Board of Directors
Committees
Chapters
Amendments
By-Laws

BY-LAWS
Duties of Officers
Nominations and Elections
Council
Board of Directors
Audit
Membership
Use of Titles
Dues
Forfeiture of Membership and Reinstatement
Meetings of the Institute
Quorum
Committees
Gold Medal of The American Institute of Chemists
Student Awards
"The Chemist"
Order of Business
Amendments

E. LOCAL CHAPTERS

Early in its history, THE INSTITUTE found local chapters to be necessary to serve and stimulate the chemist in the region where he lived and worked, and in a joint effort with his own colleagues and with those of neighboring organizations.

The Constitution sets forth the steps necessary in the creation, existence, and dissolution of Local Chapters. There must be at least ten Fellows residing in the proposed region, and these ten must actively petition the National Council to form the new Chapter. The Chapter must have, or must adopt, Constitution and By-Laws, and these must be consistent with the corresponding documents of the National body and with the objectives of THE INSTITUTE. The Constitution and By-Laws of a Chapter must be submitted to and approved by the National Council.

Local Chapters receive a portion of the National dues paid by INSTITUTE members in their geographic area. The current rebate is 8% of the net dues, after deducting the *pro-forma* portion which pays for a subscription to "The Chemist".

Other matters in the Constitution and By-Laws of the Institute which specifically affect the Local Chapter, or require specific action by the Chapter, are:

(1) Election annually of a Representative to the National Council by the Chapter itself from its membership. This person becomes a member of the National Council and serves as the intermediary between his Chapter and the National Organization.

(2) Chapter Chairmen are members of the National Nominating Committee.

(3) The Chapter shall recommend candidates from among seniors in accredited colleges of chemistry and chemical engineering in its region, to receive Student Medals for notable promise in a professional career as a chemist or chemical engineer, based on demonstrated leadership, character, and high scholastic standing.

(4) At the Annual Meeting of May 22, 1957, the INSTITUTE By-Laws were amended whereby the Council is empowered to grant a Charter to Local Chapters, now existing or hereafter established.. The Council is also empowered to revoke any Charter for failure of the Local Chaper to comply with the provisions of the Constitution and By-Laws of THE INSTITUTE.

A companion manual entitled "Chapter Operations—A Manual for Chapter Officers and Councilors" is available to qualified persons from the National Office of The Institute. This booklet discusses all the many factors which are essential to good Chapter functioning and growth. It tells what to do, and how to do it.

SECTION II. INSTITUTE GOVERNMENT

THE AMERICAN INSTITUTE OF CHEMISTS is governed by its Officers (President, President-Elect, Treasurer and Secretary), the National Council, and the Board of Directors.

A. THE NATIONAL COUNCIL

The National Council is the policy-making and administrative assembly of THE INSTITUTE. The Council is composed of the Officers, nine Councilors-at-Large, a Representative from each Chapter, and the two immediately preceding Past Presidents of THE INSTITUTE. The Council is subject to the Board of Directors on all financial and legal matters. This is required by law, since only the Board is completely composed (see Sub-section B. below) of members elected in an organization-wide election.

Only Fellows are eligible to be members of the Council. Members of the Council shall take office at the Annual Meeting of THE INSTITUTE immediately following their election, and shall hold office until their successors have been elected and installed.

The nine Councilors-at-large shall be elected to terms of three years, chosen by a staggered system so that one-third of their number shall be elected each year. Councilors-at-large shall not be eligible to serve more than two successive terms.

Any vacancies that arise among the Officers or Councilors-at-large are filled by the Council, each appointee to serve until the next normal election time, or until his successor is elected.

The Council has the power to elect or appoint other officials, agents or employees as may be necessary for the proper conduct of the affairs of THE INSTITUTE, subject to approval by the Board.

B. THE BOARD OF DIRECTORS

The Board of Directors is the Legal Representative of THE INSTITUTE, and is composed of the four Officers, the immediate Past President, and the nine Councilors-at-Large. The Board of Directors at their first meeting each year elects a Chairman who presides at all meetings of the Board. The Board has charge of and manages the property, financial affairs, and all legal matters affecting THE INSTITUTE. The Board performs such other duties as may be prescribed by law, and transacts business for and on behalf of THE INSTITUTE.

The Board is required by the Constitution to adopt an annual budget for THE INSTITUTE, to keep a record of its proceedings, to authorize disbursements by the Treasurer, and to report to THE INSTITUTE at each Annual Meeting.

The Board meets at the call of the President of THE INSTITUTE, or of any three Board members (Directors). The Secretary shall send written notice and statement of business to be transacted, to each director at least one week prior to the meeting. As a matter of convenience, the Board Meetings are usually scheduled on the same day as a Council Meeting, and to begin one-half hour prior to the Council Meeting.

The Executive Committee and the Finance Committee of the Board of Directors are discussed separately in Sub-sections D and E of this Section II.

C. OFFICERS AND THEIR DUTIES

The Officers of THE INSTITUTE are a President, a President-Elect, a Treasurer and a Secretary. The President and President-Elect are elected annually for one-year terms; the Treasurer and Secretary are elected biannually for two-year terms. The Constitution was amended in 1954 to replace the office of Vice President by that of President-Elect, and the Former Presidential term of two years was reduced to one year. The Constitution continues the limitation that no person shall serve as President for more than two full terms, a condition that now would require a former President to be elected again at a future time to the office of President-Elect.

The President-Elect succeeds to the Presidency whenever a vacancy occurs in the office of President, and upon the completion of the one-year term of the President. The Treasurer and Secretary take their respective offices, as do the other officers under normal conditions, at the Annual Meeting immediately following or at which their election took place. The Treasurer and Secretary shall hold office for two years, or until their successors qualify.

1. *Duties of the President,* to:
   (a) Preside at all Meetings of the Council and of THE INSTITUTE.
   (b) Call meetings of THE INSTITUTE, of the Council, or of the Board of Directors, when he deems necessary; or upon demand under the following conditions:
      Institute Meetings—written request by 25 Fellows
      Council Meetings—written request by 5 Council Members
      Board Meetings—written request by 3 Directors
   (c) Appoint, as prescribed by the Constitution, the following Committees:
      Honorary Membership
      Professional Education
      Qualifications or Admissions
      Ethics
      Legislation Affecting Chemists or Chemical Engineers
   (d) Serve on the following Committees:
      Honorary Membership
      Nominations
      Gold Medal Award
      All other committees, ex-officio
   (e) Appoint two tellers to canvass the returned nomination forms, and two tellers to count the annual election ballots.
   (f) Propose any action to the Council which he believes to be for the good of THE INSTITUTE.
   (g) See to it that the other officers, members of Council, committee chairmen, agents, and employees are properly discharging their duties.
   (h) Continue to serve for one year more on the Board of Directors upon leaving the office of President.

2. *Duties of the President-Elect,* to:
   (a) Become as familiar as possible with all INSTITUTE affairs, as a preparation for the office of President which he will assume in the next administration.
   (b) Preside at meetings in the absence of the President.
   (c) Serve on the Nominating Committee, and on any others to which he may be appointed.
   (d) Perform the other duties of the President in the latter's absence.

3. *Duties of the Treasurer,* to:
   (a) Collect all monies due to THE INSTITUTE.
   (b) Make disbursements only as authorized by the Board of Directors.
   (c) Have custody of INSTITUTE funds.
   (d) Keep regular account books belonging to THE INSTITUTE, which shall be open to the inspection of any member of the Council at all times.
   (e) Prepare periodic reports for submission to the Board of Directors,

the Council, and THE INSTITUTE.

(f) Prepare for and assist in the preparation of accounts in the approved form for action at the Annual Meeting of THE INSTITUTE.

(g) Bill the membership for annual dues.

(h) Notify the Council of delinquent members who are subject to being dropped from THE INSTITUTE rolls.

(i) Cooperate with the Treasurer of THE INSTITUTE Annual Meetings.

(j) Make rebates on Annual Dues to the appropriate Chapter Treasurers.

The Board of Directors has, for many years, authorized the Treasurer to engage the services of a Certified Public Accountant to handle much of the book work of the office of Treasurer.

4. *Duties of the Secretary,* to:

(a) Keep a complete roll of members of THE INSTITUTE.

(b) Notify new members of their election to membership in THE INSTITUTE.

(c) Keep records of the proceedings of:
meetings of THE INSTITUTE
Council
Board of Directors
all other matters of which a record shall be ordered by the Council or Board of Directors

(d) Conduct the correspondence of THE INSTITUTE, under the direction of the President or the Chairman of the Board.

(e) Notify the officers and all members of Committees of their election or appointment.

(f) Issue notices of meetings, which notices shall include a concise statement of the matters to come before the meeting.

(g) Send nomination blanks and election ballots to members as prescribed in the By-Laws.

(h) Advise the President on matters pertaining to THE INSTITUTE Constitution, By-Laws, or parliamentary procedure.

D. THE EXECUTIVE COMMITTEE

The Board of Directors shall have an Executive Committee composed of the Board Chairman, the President, the President-Elect, the Secretary, and the Treasurer.

The Executive Committee, whose chairman shall be the Board Chairman, shall be empowered to act for the Board on urgent matters that require action before the next Board Meeting.

E. THE FINANCE COMMITTEE

The Board of Directors shall have a Finance Committee composed of the Board Chairman, the President, the Treasurer, and another member of the Board who may serve as Chairman.

The Finance Committee shall consider and report its recommendations concerning financial matters referred to it by the Council, or by the Board of Directors, or by the Treasurer.

SECTION III. THE FUNCTIONS OF COUNCILORS AND THEIR VARIOUS COMMITTEES

A. COUNCIL MEETINGS

The Council is required by the By-Laws to convene at the Annual Meeting of THE INSTITUTE, and at least four additional times during the ensuing fiscal year. For many years it has been the practice at the Annual Meeting to hold an evening Council Meeting early in the program before the Annual Business Meeting of THE INSTITUTE. The purpose of this Council Meeting is to close all affairs of the old fiscal year and the outgoing administration. At some later time during the Annual Meeting, another meeting of the Council is held, usually a breakfast meeting, which enables the new Officers and Councilors to start promptly on the business of the new fiscal year and administration.

Most of the regular meetings of the National Council are held in New York City, at The Chemists' Club, 52 East 41st Street, New York 17, N.Y. The meetings usually start at dinner, with business being transacted between courses to conserve time. Usually the Board of Directors meets for a half hour or so immediately preceding the Council Meeting.

It devolves primarily upon the President to see that the Council Meeting is conducted efficiently and that all matters are treated properly. The Council members can help greatly by studying the agenda beforehand, and by preparing ahead of time for their presentation of all matters on which they are to report.

The agenda of a typical Council Meeting are shown below:

THE AMERICAN INSTITUTE OF CHEMISTS
60 East 42nd Street
New York 17, New York

TO ALL COUNCILORS:

A regular dinner meeting of the National Council of The American Institute of Chemists will be held on Wednesday, June 20, 1956, at 6:00 p.m. at The Chemists' Club, 52 East 41st Street, New York 17, N.Y.

As reservations for the dinner must be made in advance, will you please return the enclosed card as soon as possible.

—Lloyd Van Doren, Secretary

AGENDA

1. Approval of minutes of previous meeting.
2. Report of the President.
3. Report of the Treasurer.
4. Report of the Secretary.
5. Report of the Committee on Manpower.
6. Report of the Committee on Membership.
7. Report of Committee on Employer-Employee Relations.
8. Reports from Chapter Representatives.
9. Report of Qualification Committee.

10. Old Business
    (a) Report of Executive Committee on matter of Student Medals previously referred to it.
11. New Business.
    (a) Committee on Clinical Chemistry.

BOARD OF DIRECTORS' MEETING*

A meeting of the Board of Directors of the American Institute of Chemists will be held on Wednesday, June 20, 1956, at 5:30 p.m. at The Chemists' Club, New York 17, New York.

AGENDA

1. Treasurer's Report and Proposed Budget for 1956-57.
2. Report of the Finance Committee, Dr. Emil Ott.
3. List of those qualified for Emeritus Membership.

—Lloyd Van Doren, Secretary

*The directors are the President, President-Elect, Secretary, Treasurer, the nine Councilors-at-Large and the Immediate Past President of the American Institute of Chemists.

B. COMMITTEE ACTION

If you are a new Councilor and a member of a Committee of the National Council, you may have many questions. Most of them may be summed up in the three R's:

Relationships?
Responsibilities?
Rewards?

This manual for National Officers and Councilors should offer you useful information as well as helpful suggestions for doing a more effective job in your committee work.

Your committee work may soon take you into areas of specialized knowledge and relationships not covered in this booklet, but the general precepts contained in the three R's should serve you as a valuable reference.

1. *The First "R"—Relationships*

As a responsible Councilor and committee member, one of your first questions may be, "How do I orient myself?" This is done in three ways:

(a) Find out where your committee fits into the entire pattern of committees in THE AMERICAN INSTITUTE OF CHEMISTS and how the committee meshes into the structure of THE AMERICAN INSTITUTE OF CHEMISTS.
(b) Learn the scope and objectives of your committee.
(c) Determine your professional interests and experiences in the work of this committee.

The scope and objectives of standing committees, special committees, and sub committees are defined by the Constitution, the President, the Council or the committee chairman when the committees are originally set up.

Your professional interest in the work of your committee is attested to by your appointment to membership on it. A responsible committeeman will

promptly take all necessary steps to obtain a definition or verification of what that interest is.

The first "R" goes beyond your professional relationship. Your relationship with the committee and its members likewise assumes first-rank importance.

AIC committees constructively formulate decisions which lie between the extremes of viewpoint expressed by members. Effective councilors and committeemen contribute clear—somtimes forceful—statements of their conviction to this democratic process of reaching an integration of thought. They do not personalize their differences, no matter how firmly held. They act and counsel objectively in the best American tradition of free forums and deliberating bodies.

Committees often move slowly. As a committeeman, it is well to remember why this is so. Each member's work must be studied by his fellow committeemen. Differences of opinion and points of view must be reconciled. Although this may be tedious, it makes for committee decisions which are sound and fair, whether concerned with policies, or procedure, or action. Your work as a councilor or a committeeman will move faster and be more productive if you will observe the following simple "traffic rules":

(a) Attend as many meetings as possible, and be punctual.
(b) Be prompt in the discharge of your individual assignments.
(c) Come prepared for constructive participation in committee discussions and deliberations.
(d) Put your ideas and recommendations in writing.
(e) Stick to the subject under discussion or study.
(f) Keep an open mind.
(g) Vote your convictions.
(h) Be willing to accept majority decisions.

Too much cannot be said for talking from a fully informed viewpoint, not a strictly personal one. Your colleagues will readily detect when you are speaking from inadequate information. Councilors and committeemen who command the respect of their fellow members have taken pains to verify that what they say represents their professional point of view.

2. *The Second "R"—Responsibilities*

As a councilor or a committeeman, you may wonder just what are your responsibilities. They fall into three categories:

(a) Your responsibility to THE INSTITUTE.
(b) Your responsibility to your profession.
(c) Your responsibility to your company.

Although separate, they are interdependent, and, in the long run, indistinguishable. Your company expects your participation in committee work to be beneficial to the profession as a whole. It also expects to receive its proportionate return from your participation in committee work. With these returns, all participants can be assured of individual profit, as well as mutual dividends of sustained professional progress.

To be effective as a councilor or committeeman, you must understand two types of normal dividends to your company from your work. The first, which is indirect and sometimes intangible, is your personal growth in knowledge and skill through cultivation of your talents in committee work. The second, which is directly of utmost importance to your industry, is accurate representation of your profession.

Special knowledge and information, which sometimes are new, will become available to you as a councilor and a committee member. It is your responsibility to screen such information and transmit that which is pertinent and significant to those in your profession who may profit by it.

What do you do when your committee deals with subjects and problems outside of the area of specialty?

The effective councilor consults with his business or professional associates who are well-informed on that particular subject, gets the pertinent information and delivers it to the committee. Do not underestimate the importance of being an effective envoy.

As a committeeman, you have certain obligations to your colleagues on the committee and in THE INSTITUTE.

You have an obligation to be constructive and to respect the viewpoint of every other committeeman. This respect should not diminish when there is disagreement. You have the corollary obligation to oppose propositions which you consider unsound and to propose something better if you are able to do so.

Do not shirk your responsibility to contribute your fair share of information and work. Do not take on tasks you are unable to perform.

Clear exposition and effective presentation will increase the value of your contribution by almost a geometric progression.

Finally, you have a special obligation to your committee to recommend the discharge of the committee when its purpose has been accomplished or when the value of its work no longer justifies its existence.

3. *The Third "R"—Rewards*

Your rewards as a Councilor and a committman may be substantial or negligible. They will vary with the effort expended and with the quality and quantity of your contribution.

If rewards are not paid in the "coin", they may be none the less real for being in part intangible. The experience of many others suggests that at least the following debit items are typical of the personal profit and loss statement of a Councilor and a committeeman:

(a) You have a challenging opportunity to further your own education, to grow in knowledge and skill, and to cultivate your talents.

(b) You have an opportunity for direct participation in the advancement of the profession.

(c) You will enlarge your circle of associates and friends.

(d) You may realize satisfactions from selfless and absorbing work which offset its occasional and inevitable tedium.

(e) Last, but not least, you will have the personal satisfaction which comes only from a worthwhile job well done.

C. HONORARY MEMBERSHIP COMMITTEE

The National body has a standing Committee on Honorary Membership, in accordance with the Constitution, Article V, Section 2. This Committee is appointed by the President and consists of the President, two members of the Council and two Honorary Members. Only the National Council can confer Honorary Membership, and the National By-Laws limit the number of living Honorary Members to between one and two per cent of the total INSTITUTE membership.

Present practice is to consider names with attention to geographic distribution amongst the areas: East, Middle West, South and Far West. The National Committee is always receptive to suggestions from various Chapters, and may indeed, through the National Secretary's office, from time to time invite such recommendations. However, the utmost delicacy must surround any Chapter discussions of this sort. In every case, the Chapter function ceases once it has made a recommendation to the National Council, and it must refrain from any action of notification or publicity until it receives word from the National Secretary that one of its members has been elected to Honorary Membership.

Thereupon it is very proper for the Chapter to work with the National Office in arranging a small, intimate meeting at which the intended recipient is notified of his election. This notification will probably be left to the Chapter, and the Chapter should probably be able at that time to tell the recipient of its plans for a presentation meeting of the Chapter. Such an Honorary Membership Award Meeting provides the basis of a very fine Chapter Meeting—one which usually calls the National President to participate.

HONORARY MEMBERS OF THE AMERICAN INSTITUTE OF CHEMISTS

	Elected		Elected
Arnold O. Beckman	1957	S. D. Kirkpatrick	1952
Harold A. Levey	1957	John E. McKeen	1952
Bernard E. Schaar	1957	Glenn T. Seaborg	1952
W. E. Hanford	1957	E. H. Volwiler	1952
J. E. Hildebrand	1956	Jerome Alexander	1951
Lawrence H. Flett	1956	Harry N. Holmes	1951
W. George Parks	1956	A. Silverman	1951
Raymond Stevens	1956	Walter J. Murphy	1950
Carl S. Marvel	1955	R. E. Swain	1950
H. B. McClure	1955	Roger Adams	1949
Roy C. Newton	1955	William Blum	1949
H. G. Byers	1954*	Frank G. Breyer	1949
Paul D. V. Manning	1954	James B. Conant	1949
W. J. Sparks	1954	G. J. Esselen	1949*
M. C. Whitaker	1954	William L. Evans	1949*
F. J. Curtis	1953	Harry L. Fisher	1949
R. P. Dinsmore	1953	Warren K. Lewis	1949
R. L. Murray	1953	R. P. Russell	1949
J. C. Warner	1953	A. Schwarcman	1949
W. G. Whitman	1953	Henry C. Sherman	1949*
F. J. Emmerich	1952	Charles A. Thomas	1949
Arthur J. Hill	1952	*Deceased	

(Honorary Members—continued)

John W. Thomas	1949*	Moses Gomberg	1936*
M. L. Crossley	1948	Otto P. Amend	1935*
Gustav Egloff	1948*	William H. Walker	1933*
Charles L. Parsons	1948*	L. H. Baekeland	1931*
W. T. Read	1948	E. C. Franklin	1931*
E. R. Weidlein	1948	William McPherson	1931*
James R. Withrow	1948*	John J. Abel	1928*
Marston T. Bogart	1945*	Frank W. Clarke	1928*
E. Emmet Reid	1945	James Kendall	1928
Maximilian Toch	1944*	Harvey W. Wiley	1928*
W. W. Buffum	1937*	C. E. Munroe	1924*
W. D. Bancroft	1937*	Ira Remsen	1924*
George C. Lewis	1937*	Edgar F. Smith	1924*
A. C. Morrison	1937*	C. F. Chandler	1923*
William Foster	1936*		

D. NOMINATIONS COMMITTEE

This standing committee of the National body is provided for by Article V, Section 3 of the Constitution, and consists of THE INSTITUTE President, President-Elect, Secretary, and the Chairmen of all of the local Chapters.

The INSTITUTE Secretary, early in each fiscal year, writes to the Chapter Chairmen inviting them to send in suggested names for the vacancies to be filled at the Institute Elections the following Spring. Only Fellows are eligible to become officers or members of the Council. The Secretary then corresponds with each Fellow suggested to obtain his permission for including his name on the nomination ballot. The Nominations Committee is to complete its nomination list at least ninety days before the Annual Meeting.

The Secretary then prepares nomination ballots containing the list of nominees and sends the forms to all members of THE INSTITUTE at least sixty days preceding the Annual Meeting. These nomination ballots are to be marked with the individual member's preference for each vacancy, and he need not be limited to the names listed, but may nominate any Fellow for any position to be filled. The nomination ballots must be returned within fourteen days after the date of mailing. The returned ballots are canvassed by two tellers appointed for that purpose by the President who shall certify the list of nominees to the Secretary.

For the actual election, the Secretary prepares a ballot containing a list of three nominees for each office to be filled, and of two nominees for each position of Councilor-at-Large, arranged in the order of the number of nominating votes. This election ballot is sent to all members of THE INSTITUTE at least thirty days before the Annual Meeting. The election ballots must be returned within twenty days after the date of mailing.

The election ballots are counted by two tellers, appointed for that purpose by the President, and the results shall be certified to the Council. The person receiving the highest number of votes for each position shall be declared elected. In cases of a tie vote, the decision shall be made by ballot at the Annual Meeting.

E. PROFESSIONAL EDUCATION COMMITTEE

The National body has a standing Committee on Professional Education. It is appointed by the President with approval by the Council to study curriculum and accrediting systems and shall submit its recommendations to the Council. It is the Committee to which all matters concerning the education of chemists and chemical engineers either in colleges, universities, and/or high schools are referred. It takes into consideration education policies and developments affecting chemists and chemical engineers which may appear in the public press or which may occur in various Legislatures. It cooperates and collaborates with scientific educational societies on matters of mutual interest.

The Committee operates on instruction from the National Council, but it may make recommendations at any time for consideration by the Council.

F. QUALIFICATIONS COMMITTEE

The Qualifications Committee is one of the standing committees of THE INSTITUTE, and one whose importance is greater than the amount of publicity it receives. It is established under Article V, Section 4, of the Constitution, and its duties are indicated in Article II of the Constitution, which describes the qualifications for membership in THE INSTITUTE, and in Article VI of the By-Laws, in which the qualifications are given in greater detail.

The Committee is appointed by the President and is composed of five (5) members, three of whom are required to be members of the Council at the time of appointment, and the Chairman is required at the time of appointment to a member of the Council.

About ten days before each Council meeting, each member of the Qualifications Committee receives from the National Secretary a list of applicants for admission to THE INSTITUTE with an abstract of the contents of each application. It has been the working custom of the Committee for some years to scrutinize and mark these lists in advance of the Committee meeting, which is held frequently an hour before the meeting of the Council. At the meeting of the Committee the list is carefully considered and each applicant is judged on the basis of the data which he has furnished. When insufficient data are supplied, it is customary to defer action by the Committee until more information is available. In considering applications, the Committee looks first at the citizenship of the applicant—only citizens of the United States are admissable as members of THE INSTITUTE. The education and experience of the applicant are then judged, and the Committee decides its recommendation to the National Council.

It must be noted that the Committee is not allowed any liberty in determining compliance with the requirements for admission to THE INSTITUTE as set down by the Constitution and By-Laws. If these are met, the Committee recommends to the Council that the applicant be admitted in an appropriate grade of membership. The Council has, under the Constitution and By-Laws, the power to consider qualifications in lieu of the stated ones, and the Committee may recommend that the Council act favorably in such cases.

In its interpretation of qualifications, it is important that the Committee do, and it does, bear in mind that THE INSTITUTE's membership is select, and that purely formal compliance with the requirements for admission is not sufficient unless there is evidence in the applicant's history of professional growth during his career; that is to say, a person who has the educational requirements and a sufficient number of years of experience in order to be qualified for a fellowship in THE INSTITUTE would not meet the Committee's approval if his years of experience had been devoted to work of a routine nature where the possibility of true professional activity would be absent.

G. ETHICS COMMITTEE

This Committee is appointed by the President with the approval of the Council, and exists under the authority of Article V, Section 4, of the Constitution of THE INSTITUTE.

Its duty is to exercise surveillance over the compliance with the code of ethics of THE INSTITUTE by THE INSTITUTE's membership; i.e., when allegations of violations of the code are presented to the Committee, usually through the Offices of THE INSTITUTE, these are considered *in camera* and the matter is investigated. Various parties to the dispute may be queried and a decision reached as to the disposition of the matter. The Committee has available means for such disposition; first, by representations to the member involved, or to others concerned; or secondly, by recommendations to the Council of THE INSTITUTE that action be taken. In a very few cases in the history of THE INSTITUTE, it has been found necessary to withdraw membership from the individual involved. The Committee is always keenly aware of the necessity of conducting its business with a minimum of disclosure to any individual whatsoever.

H. COMMITTEE ON LEGISLATION AFFECTING CHEMISTS OR CHEMICAL ENGINEERS

This Committee is one of THE INSTITUTE's standing committees created under Article V, Section 4 of the Constitution. It is appointed by the President with the consent of the Council.

It is the duty of this Committee to maintain scrutiny of the Congress of the United States and the several State Legislatures to observe whether any legislation is proposed which may affect chemists or chemical engineers. Upon receipt of information concerning such legislation, the Committee is expected to familiarize itself with the details, to consider the effect on the profession, and to make appropriate recommendations to the Board and the National Council.

As examples may be cited the legislation which has been proposed in some States for the licensing of Clinical Laboratories: the legislation which was enacted in California requiring the supervision of a licensed pharmacist in all varieties of establishments where chemicals are handled. Fortunately, this piece of tomfoolery was suitable interpreted, due largely to representations by THE INSTITUTE and Sections of the American Chemical Society so that pharmacists are not required to supervise oil refineries or chemical manufacturing establishments.

Most recently the Committee has been concerned with Federal legislation which would permit self-employed professionals to provide retirement benefits for themselves under a tax basis as favorable as that by which employees can accumulate Social Security. The variety of matters which may require the attention of this Committee is great, and vigilance is an important factor in its successful functioning.

I. GOLD MEDAL COMMITTEE

The Gold Medal Committee is established by Article V, Section 5 of the Constitution. This committee selects, by discussion and final vote of its members, the person to whom the Medal is to be awarded. The committee consists of:

The President
The three immediately preceding Past Presidents
The Secretary

The senior of the above Past Presidents shall be chairman of the committee.

The Gold Medal of THE AMERICAN INSTITUTE OF CHEMISTS was founded in 1925 to signalize noteworthy and outstanding service to the science of chemistry or the professions of chemist or chemical engineer in America. This Gold Medal is one of the highest awards that can come to a man in these fields, and the distinguished winners of this Medal are listed at the end of this sub-section.

The Gold Medal of THE INSTITUTE is usually awarded annually, but an award every year is not mandatory. The Medal is usually presented at the Annual Meeting of THE INSTITUTE, at the main banquet. Everything is done to make this a most festive occasion. The Chairman of this Committee presents this award.

RECIPIENTS OF THE GOLD MEDAL
OF
THE AMERICAN INSTITUTE OF CHEMISTS

Dr. William Blum	1926	Dr. Walter S. Landis	1943
Dr. Lafayette B. Mendel	1927	Dr. Willard H. Dow	1944
Mr. & Mrs. Francis Patrick Garvan	1929	Dr. John W. Thomas	1945
Mr. George Eastman	1930	Dr. Robert Price Russell	1946
Messrs. Andrew W. and Richard B. Mellon	1931	Dr. Moses Leverock Crossley	1947
Dr. Charles H. Herty	1932	Dr. Charles Allen Thomas	1948
Dr. Henry C. Sherman	1933	Dr. Warren K. Lewis	1949
Dr. James Bryant Conant	1934	Dr. Walter J. Murphy	1950
Dr. Marston Taylor Bogert	1936	Dr. Harry N. Holmes	1951
Dr. James F. Norris	1937	Dr. Fred J. Emmerich	1952
Dr. Frederick G. Cottrell	1938	Dr. John C. Warner	1953
Dr. Gustav Egloff	1940	Dr. William J. Sparks	1954
Dr. Henry G. Knight	1941	Dr. Carl S. Marvel	1955
Dr. William Lloyd Evans	1942	Mr. Raymond Stevens	1956
		Dr. Roy C. Newton	1957

J. SOME OTHER COMMITTEES NOW ACTIVE

Besides the previously discussed committees whose existence is demanded by the Constitution, the National Council in recent years has seen fit to create the committees whose description follows in order to better implement the objectives of THE INSTITUTE.

(1) *Committee on Membership*

This committee concerns itself with invitations to membership in THE INSTITUTE. Perusal of the names of chemists and engineers listed in such directories as *American Men of Science,* etc. is a major source of invitees. The committee sends lists of selected names to the National Office, where a carefully prepared letter of invitation over the President's signature is sent to each name. Very active work in the last two years has been productive already, and much greater results are expected to accrue.

(2) *Committee on Manpower*

This committee concerns itself with the supply and utilization of manpower, particularly chemists and chemical engineers. The committee is also concerned with such other aspects as influencing young people to choose a scientific career, as maintenance of a high level of educational standards at secondary school and collegiate levels, as the effect of the military draft policies, etc. The committee operates primarily by participation and individual persuasion in high level governmental, business and citizen committees and conferences. It is able to keep the National Council informed on all such matters, and to suggest any actions that may be desirable and within the scope of THE INSTITUTE objectives.

(3) *Committee on Employer-Employee Relations*

This committee attempts to arbitrate any serious difficulties that may be brought to its attention, and to advise employers and employees of ways it has found to foster good relations.

The report of the committee under Elmore H. Northey in 1945 is still one of the best guides to the young chemist or chemical engineer seeking a position. It advises him on the important questions to which he should obtain the answers during an employment interview.

A model Employee Contract for Chemists was developed by the Committee in 1954. This contract and the Northey Report are both available to any responsible party by writing to the National Office. The contract is also discussed in the article entitled "A Suggested New Contract for Chemists" by Lloyd A. Hall, appearing in "The Chemist" *31,* 231-6, 1954.

(4) *Committee on Student Medal Awards*

This committee concerns itself with the mechanisms by which eligible schools may be determined, the desirable number of awards in a given chapter, etc. A few years ago, the committee under Donald Othmer established a sizeable group of guiding principles and rules. Last year, the committee established an Essay Contest among the award winners of the year, with $100 as the first prize. A problem still exists, or has now begun to exist, in some Chapters over the too-large group of possibly eligible schools (hence

awards). There is a section in the companion manual "Chapter Operations" dealing with the Chapter's role in making the awards.

(5) *Committee on A.I.C. History*

This committee was set up in 1954 in order to have an impressive, authoritative book on the history of THE INSTITUTE ready for the Thirty-Fifth Annual Meeting in 1958.

K. OPERATIONS OF "THE CHEMIST"

The Institute publishes monthly "The Chemist" as a medium for bringing professional information to chemists and chemical engineers. It has become the main source and repository of the literature dealing with the subjects and problems concerning the profession of chemist. In addition, "The Chemist" carries current items and articles of interest to the national membership, and gives publicity to Chapter affairs.

"The Chemist" is produced by the staff of the National Office, and really by its Editor, Vera F. Kimball, who is mainly responsible for the increasing eminence achieved by this small format (6″ x 9″) magazine. The Editor is assisted in evaluating material for publication by the Advisory Board for "The Chemist." This Board recently was enlarged to include nine members, selected by the Editor with the approval of the Council. The Advisory Board members now will serve for three-year terms on a rotating basis whereby three members are replaced each year.

"The Chemist" operates on a budget of its own, approved by the Board of Directors of The Institute. It derives funds from two sources:

(1) Subscriptions—$2.00 from the annual dues of each member is allocated to "The Chemist" for members' subscriptions (there are about 3000 members). Subscription from non-members is $3.00 a year, and there are about 500 such subscriptions.

(2) Advertising—increasing the amount of this is most important to the continued growth of "The Chemist". Advertising is handled by Publishers Associates, 302 Fifth Ave., New York 1, N. Y., but all who are in a position of influence should do everything they can to gain more advertising, especially from chemical industrial firms.

In each issue of "The Chemist" the featured articles are on professional subjects. These may be either articles written specifically for "The Chemist", or speeches given before meetings to THE INSTITUTE, local chapters, or other organizations. Many of these speeches are given at some Award Dinner to an outstanding exemplar of the combination of professional and technical accomplishments in one person. In addition, guest editorials are always welcome and these also exert an influence on professional thinking.

L. ANNUAL MEETINGS OF THE INSTITUTE

The Constitution and By-Laws require an Annual Meeting of THE INSTITUTE, primarily as an occasion for the taking of office by the newly elected Officers and Councilors, for the Board and the National Council to report to THE INSTITUTE membership, and for THE INSTITUTE to receive the report of the auditors.

The time of the meeting has not been stipulated, but the fiscal year ends on April 30th. It has been customary to hold the Annual Meeting in May. Formerly, most Annual Meetings were held in New York City, but the nation wide growth of the membership is reflected in the recent distribution of Annual Meeting sites:

1946	New York, N. Y.	1953	Philadelphia, Pa.
1947	New York, N. Y.	1954	Asbury Park, N. J.
1948	New York, N. Y.	1955	Chicago, Ill.
1949	Chicago, Ill.	1956	Boston, Mass.
1950	New York, N. Y.	1957	Akron, Ohio
1951	Niagara Falls, N. Y.	1958	Los Angeles, Calif.
1952	New York, N. Y.	1959	Atlantic City, N. J.

The Chapter in whose geographical area the meeting is held acts as Host to this Annual Meeting of the National organization.

The National Council makes the final determination of all aspects of the Annual Meeting, but THE INSTITUTE will expect the Host Chapter to assume much of the burden of the work required to organize and carry out the details of the meeting. In arranging for the Annual Meeting, it is the responsibility of the Host Chapter to make suggestions, and it is the responsibility of the National Council to confirm these suggestions. Consequently, it is necessary that the proper liaison be set up between the Host Chapter and the National Council, and this should be done at least 9 to 12 months in advance.

It is first necessary for THE INSTITUTE President and National Council to choose a general chairman, an honorary chairman, and a program chairman for the Annual Meeting. Then the General Chairman, working with the Host Chapter, appoints chairmen for the various committees which will be required to plan and carry out the meeting arrangements:

Program
Arrangements
Treasurer
Special Events Committee
Publicity and Public Relations
Ladies Activities
Registration

Recent practice has been to appoint Co-chairmen for the Program Committee: the President-Elect and also a person designated by the Host Chapter. This arrangement facilitates getting the required approval of the program by the National Council. Financial contracts with hotels, etc. must be approved by the National Secretary and the National Treasurer, acting for the Finance Committee of the Board.

The National Office of THE INSTITUTE handles all direct correspondence with the membership concerning the Annual Meeting. The principal notification goes out about six weeks in advance of the Meeting, and includes

the official announcement and program of the meeting, reservation forms for both the various functions and symposia as well as for hotel rooms, and a ballot for voting for candidates for office (and changes in the Constitution and/or By-Laws, if any).

The companion manual entitled "Chapter Operations—A Manual for Chapter Officers and Councilors" has several pages on setting up the meeting and handling registrations and reservations. This should be consulted for more information. Copies are available from the Office of the AIC, 60 East 42nd Street, New York 17, N. Y.

M. WORKING EFFECTIVELY WITH ONE'S OWN AND OTHER CHAPTERS

The function of a Chapter Representative to the National Council of THE INSTITUTE is to present to the National Council, and to advocate before it, all matters which his Chapter has instructed him to present or advocate. He is also required by the National Council to report to it on the activities of his Chapter, and to report back to his own Chapter on National Council actions of interest to his Chapter.

It is at meetings of the National Council that the Chapter Representative will hear of the activities and problems in other chapters. Direct contact of one Chapter with another on matters of mutual interest has always been encouraged. Some activities which were of interest primarily to individual Chapters, but which have been the subject of inter-chapter contacts in recent years, include:

Honor Scrolls
Annual Chapter Dues
Student Medal Award Practices
Summer Employment Programs
Group Health Insurance Programs

The Chapter Representative to the National Council, as do all other Council members, comes under the By-Law that he vacates his office if he misses three successive Council meetings without adequate reason. Good attendance at National and also his own Chapter Council and Chapter meetings is essential.

Committee on Manual of National Council Operations:
Florence E. Wall
Karl M. Herstein
Guy A. Kirton
John Kotrady
Dr. Maurice J. Kelley, *Chairman*

For Your Library

The Chemistry of Phenolic Resins

The Formation, Structure, and Reactions of Phenolic Resins and Related Problems. By Robert W. Martin. John Wiley & Sons, Inc. 1956. 298 *pp.* $9.50.

As the only detailed survey in English which covers the chemistry of both present-day phenolic resins and the related products available as more or less pure compounds, this book offers the resin chemist, in particular, an extremely useful composite of information. Dr. Martin has had much experience in dealing with the thermosetting resins, and his work offers an unusual balance between theory and practice.

Taking separately each major type of reaction of phenols with aldehydes and ketones, all available data are presented fully and systematically thus making the location of research material easy and logical. References follow each chapter. Many tables are included and a subject index. This is a "must" for the resin chemist, and it should be of real interest to any organic chemist.

—Dr. Frederick A. Hessel, F.A.I.C.

Crop Protection

By G. J. Rose. Philosophical Library. 1956. 223 *pp.* $10.00.

This well-illustrated volume has been written for the cultivator, large or small, who must protect his crops from seeds to storage bins, against insect pests, fungus diseases, and competing weeds. The author, an entomologist, has integrated the achievements of the biologist, the chemist, and the engineer, and presented them in a manner understandable to the practical agriculturist.

Recent insecticides, fungicides and weed killers are described. Each chemical is discussed in the light of its value to the grower. Each kind of equipment available is considered with relation to the individual factors involved, such as location, live-stock, nature of the crop, etc. This should be a valuable addition to the book shelves of any dirt farmer.

—Dr. Frederick A. Hessel, F.A.I.C.

Biochemisches Taschenbuch

H. M. Raven, editor. Springer-Verlag, Berlin-Goettingen-Heidelberg. 1956. 1332 *pp.* 352 *figures.* 8 x 5½. *D.M.* 69.00.

This handbook has been prepared by 73 specialists for biochemists and those in related fields. One-half of the book contains physical and chemical data, governed by biologic interest, desirably listed by groups rather than alphabetically. The first 747 pages cover structure of compounds, physical chemistry of solutions, kinetics, and radioactivity. The second half of the book deals with nutrition, methods of animal experimentation, cell constituents, histochemistry applied to identification of compounds and to enzyme chemistry, properties and functions of hormones, vitamins, enzymes, antibiotics, and biologically important compounds, methods for lyophilization, and chromatography. The book concludes with chapters on statistical methods and on the prevention of accidents and on first aid. Each chapter has a well selected bibliography. There is an extensive subject index. This is an excellent, comprehensive handbook for the chemist interested in the nature and function of living things.

—Dr. Henry Tauber, F.A.I.C.

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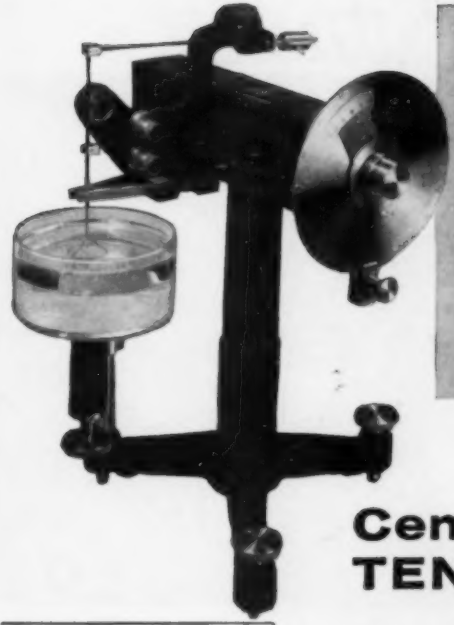

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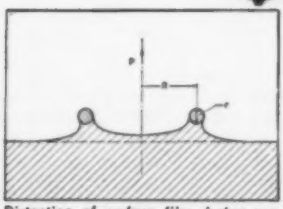

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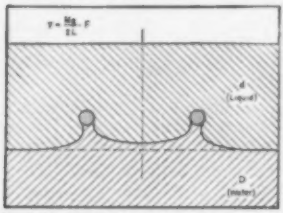

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